UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,585	01/18/2002	Takahiro Sato	YAMAP0797US	1116

43076   7590   01/31/2006

MARK D. SARALINO (GENERAL)
RENNER, OTTO, BOISSELLE & SKLAR, LLP
1621 EUCLID AVENUE, NINETEENTH FLOOR
CLEVELAND, OH 44115-2191

EXAMINER
WILLIAMS, JEFFERY L

ART UNIT	PAPER NUMBER
2137	

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.
10/051,585</td><td>Applicant(s)
SATO ET AL.</td></tr>
<tr><td>Examiner
Jeffery Williams</td><td>Art Unit
2137</td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _10/7/05_.
2a) ☒ This action is **FINAL.**   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-11_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-11_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _18 January 2002_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All b) ☐ Some * c) ☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1   **DETAILED ACTION**

2

3   This action is in response to the communication filed on 10/7/2005.

4

5   All objections and rejections not set forth below have been withdrawn.

6

7

8   *Claim Rejections - 35 USC § 102*

9   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

10   form the basis for the rejections under this section made in this Office action:

11   A person shall be entitled to a patent unless –

12   (e) the invention was described in (1) an application for patent, published under section 122(b), by
13   another filed in the United States before the invention by the applicant for patent or (2) a patent
14   granted on an application for patent by another filed in the United States before the invention by the
15   applicant for patent, except that an international application filed under the treaty defined in section
16   351(a) shall have the effects for purposes of this subsection of an application filed in the United States
17   only if the international application designated the United States and was published under Article 21(2)
18   of such treaty in the English language.
19
20

21   **Claims 5 and 6 rejected under 35 U.S.C. 102(e) as being anticipated by**

22   **Stokes, "Magnetic Optical Encryption/Decryption Disk Drive Arrangement", U.S.**

23   **Patent 6,473,861 B1.**

24   Regarding claim 5, Stokes discloses:

25   *an execution section for executing an interpreter execution program that is*

26   *capable of interpreting an intermediate code, so as to generate a control command*

27   *string* (Stokes, fig. 1, elem. 11; fig. 3; col. 6, lines 14-17, 49-55, 56, 57; col. 3, lines 6-

1   10). As disclosed by Stokes, the RAM contains encrypted data, comprising a user

2   chosen program to govern the disk drive operation, which is interpreted by the

3   encryption/decryption ROM program.

4   *and a control section for controlling recording/reproduction or information on an*

5   *optical disc according to the control command string* (Stokes, fig. 1, elem. 11, fig. 3; col.

6   6, lines 49-55). Stokes further discloses a control section for controlling the

7   recording/reproduction of information on an optical disc. It is inherent that the execution

8   section generates a command string so as to control the control section.

9

10   Regarding claim 6, Stokes discloses:

11   a RAM for storing an intermediate code; a ROM for storing the interpreter

12   execution program; and a CPU for controlling execution of the interpreter

13   execution program (Stokes, fig. 1, elem. 11, fig. 3).

14

15   ***Claim Rejections - 35 USC § 103***

16

17   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

18   obviousness rejections set forth in this Office action:

19   (a) A patent may not be obtained though the invention is not identically disclosed or described as set
20   forth in section 102 of this title, if the differences between the subject matter sought to be patented and
21   the prior art are such that the subject matter as a whole would have been obvious at the time the
22   invention was made to a person having ordinary skill in the art to which said subject matter pertains.
23   Patentability shall not be negatived by the manner in which the invention was made.
24
25

1   **Claims 1 – 4 and 7 – 11 are rejected under 35 U.S.C. 103(a) as being**

2   **obvious over Stokes, "Magnetic Optical Encryption/Decryption Disk Drive**

3   **Arrangement", U.S. Patent 6,473,861 B1.**

4

5   Regarding claim 7, Stokes does not specifically disclose that the RAM the ROM,

6   and the CPU are formed on one chip. Stokes does disclose, however, that all the

7   described components are modules of a circuit (Stokes, col. 2, lines 16-19). Stokes

8   also discloses that prior art teaches to place memory and processor on a single

9   integrated circuit chip (Stokes, col. 1, lines 47-50). It is further disclosed that the

10   improvement upon prior art is locating this circuit within a sealed tamper resistant

11   enclosure (Stokes, col. 1, lines 62-66). This teaching is suggested by the drawings

12   (Stokes, fig. 1, fig. 3).

13   It would have been obvious to one of ordinary skill in the art to employ the

14   method of placing the RAM, ROM, and CPU on one chip. This would have been

15   obvious because one of ordinary skill in the art would have been motivated to employ

16   the teachings of prior art as well as the methods of Stokes for improving upon prior art

17   (see *Response to Arguments* section below).

18

19   Regarding claim 8, the modification of Stokes discloses:

20   a recording/reproduction head for recording/reproducing information on the

21   optical disc; a motor for driving the optical disc; and an optical disc control section for

22   controlling the recording/reproduction head and the motor (Stokes, figs. 1, 3).

1

2   Regarding claim 9, the modification of Stokes discloses:

3   wherein the optical disc control section is formed on the one chip (Stokes, figs. 1,

4   3; see explanation for claim 7).

5

6   Regarding claim 10 the modification of Stokes does not disclose that the

7   intermediate code is encrypted. However, Stokes does disclose that the addresses

8   used to direct the control section where to place data on a single disk are encrypted.

9   Stokes further discloses that, along with the encrypted addresses, the RAM also

10 contains code to direct the control section where to place data on multiple disks.

11 (Stokes, col. 6, lines 40-55).

12   It would have been obvious to one of ordinary skill to encrypt this code as well.

13 This would have been obvious because one of ordinary skill in the art would be

14 motivated by the same reason to encrypt addresses for data placement on a single disk,

15 to also encrypt the code that addresses data to multiple disks, as this would provide

16 security by hiding the addresses of the data.

17

18   Regarding claim 11, the modification of Stokes does not specifically disclose that

19 the RAM is able to store encrypted code and unencrypted code. However, it would

20 have been obvious, based upon logical reasoning, to one of ordinary skill in the art to

21 recognize that RAM is capable of storing encrypted information and unencrypted

22 information. This would have been obvious because one of ordinary skill in the art

1 would have clearly recognized that RAM is usable for storing digital information, and

2 digital information, whether encrypted or not, is capable of being stored in RAM.

3   The modification of Stokes does not specifically disclose that an interpreter

4 program is able to interpret both encrypted code and unencrypted code. However, it

5 would have been obvious to one of ordinary skill in the art, based upon logical

6 reasoning, to recognize that a program can be used by a processor to process both

7 encrypted code and unencrypted code. This would have been obvious, because one of

8 ordinary skill in the art would have logically recognized that an program could easily

9 interpret encrypted code by XORing with a certain decryption key comprised of binary

10 1's and 0's, and could just as easily interpret unencrypted code by XORing with a key

11 consisting of binary 0's, thus revealing the same unencrypted code.

12

13   Regarding claim 1, it contains essentially the same limitations as claims 6 and 7,

14 and is rejected for the same reasons.

15

16   Regarding claim 2, it contains essentially the same limitations as claim 10, and is

17 rejected for the same reasons.

18

19   Regarding claim 3, it contains essentially the same limitations as claim 11, and is

20 rejected for the same reasons.

21

1   Regarding claim 4, it contains essentially the same limitations as claims 7 and 8,

2   and is rejected for the same reasons.

3

4

5   ***Response to Arguments***

6

7   Applicant's arguments filed 10/07/05 have been fully considered but they are not

8   persuasive.

9

10   1.   Applicants contend that claims 5 and 6 are not anticipated by Stokes:

11   *Accordingly, applicants respectfully submit that Stokes does not teach or suggest*

12   *each and every feature of claim 5. Withdrawal of the rejection of claim 5 and claim 6,*

13   *which depends therefrom, is respectfully requested.*

14

15   Applicants argue primarily: *The Examiner contends that Figs, 1 and 3 of Stokes*

16   *teach the invention as claimed. Applicants respectfully disagree for at least the following*

17   *reasons.*

18

19   *Stokes describes a magnetic optical encryption/decryption disc drive*

20   *arrangement. Specifically. Stokes describes a disc drive in which the data may be*

21   *encrypted and decrypted. The disc drive stores encryption keys and*

22   *encryption/decryption firmware in a secured environment. Any attempt to open the disc*

1   *drive enclosure results In the loss. i.e., erasure, of the stored encryption key material.*

2   *(See, e.g., Col. 4. Ins. 13-19).* (Remarks, page 2 of 5, par. 6).

3   Regarding the above reason submitted by the applicant for traversal of the

4   rejection of claims 5 and 6 under 35 U.S.C. 102(e), the examiner respectfully asserts

5   that this argument does not prove to distinguish claims 5 and 6 from the prior art.

6   Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a

7   general allegation that the claims define a patentable invention without specifically

8   pointing out how the language of the claims patentably distinguishes them from the

9   references.

10

11   *Stokes does not teach of suggest that the encryption keys and/or*

12   *enception/decryption firmware are themselves encrypted within the RAM as suggested*

13   *by the Examiner.* (Remarks, page 3 of 5, par. 1).

14   Regarding the above reason submitted by the applicant for traversal of the

15   rejection of claims 5 and 6 under 35 U.S.C. 102(e), the examiner respectfully asserts

16   that this argument does not prove to distinguish claims 5 and 6 from the prior art. In

17   response to applicant's argument that the references fail to show certain features of

18   applicant's invention, it is noted that the features upon which applicant relies (i.e.,

19   *encryption keys and/or enception/decryption firmware are themselves encrypted within*

20   *the RAM)* are not recited in the rejected claim(s). Although the claims are interpreted in

21   light of the specification, limitations from the specification are not read into the claims.

22   See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

1

2   *Therefore, Stokes does not teach or suggest an interpreter which interprets*

3   *intermediate code <u>so as to generate control commands</u> (versus simply decrypting or*

4   *encrypting data stored on the disc) which are then used for controlling the*

5   *recording/reproduction of information on the optical disc as recited in claim 5.* (Remarks,

6   page 3 of 5, par. 2).

7   Regarding the above reason submitted by the applicant for traversal of the

8   rejection of claims 5 and 6 under 35 U.S.C. 102(e), the examiner respectfully asserts

9   that Stokes teaches the limitations as claimed.

10   First, the examiner points out that the claim limitation - *an execution section for*

11   *executing an interpreter program **that is capable of interpreting** an intermediate code,*

12   *so as to generate a control command string* (claim 5) – implies an interpreter that is

13   capable of interpreting code so as to control the functionality of something. In response

14   to applicant's argument that Stokes does not teach *an interpreter program that is*

15   *capable of interpreting an intermediate code, so as to generate a control command*

16   *string*, a recitation of the intended use of the claimed invention must result in a structural

17   difference between the claimed invention and the prior art in order to patentably

18   distinguish the claimed invention from the prior art. If the prior art structure is capable of

19   performing the intended use, then it meets the claim.

20   Second, as pointed out in the prior office action, the examiner again asserts that

21   Stokes teaches *an interpreter program that is capable of interpreting an intermediate*

22   *code, so as to generate a control command string* (Stokes, col. 6, lines 14-17, 42-45,

1   49-57). As shown, Stokes discloses an execution section for an executed program that

2   results in the commanding of the device to record/reproduce information in an controlled

3   manner.

4

5   2.   Applicants contend that claims 1-4 and 7-11 are not obvious over Stokes.

6   Applicants argue primarily that:

7   *The examiner basically relies on Kittirutsunetom as teaching the RAM, ROM and*

8   *CPU on a single integrated circuit.* (Remarks, page 4 of 5, par. 3).

9   *As a result, Kittirutsunetom (and similarly Stokes) does not teach or suggest the*

10   *RAM, ROM and CPU on a single chip as recited in claim 1. Thus, even if the*

11   *references were combined as suggested by the Examiner, the claimed invention would*

12   *not result.* (Remarks, page 4 of 5, par. 4).

13   In summary, the applicants contend that there exists no suggestion to attach a

14   CPU, RAM, and ROM to a single piece of silicon. In response, the examiner points out

15   that the applicants have misinterpreted the rejection of claims 1 and 7. Claims 1 – 4

16   and 7 – 11 were rejected under 35 U.S.C. 103(a) as being obvious over Stokes,

17   "Magnetic Optical Encryption/Decryption Disk Drive Arrangement", U.S. Patent

18   6,473,861 B1. Thus, the examiner does not *basically relies on Kittirutsunetom* as

19   alleged by the applicants. There is no attempt to combine references of Kittirutsunetom

20   and Stokes. The rejection relies on the teachings and interpretations of Stokes and

21   what would have been obvious to one of ordinary skill in the art.

1   As disclosed by Stokes, prior art shows an arrangement to provide data

2   encryption. Stokes' disclosure of prior art makes clear that an arrangement of data

3   encrypting elements can be contained on a single piece of silicon, an integrated circuit

4   chip. That is, the data encryption elements used for encrypting data (a processing

5   element for interpreting coded algorithms or processing data in accordance with an

6   algorithm, and memory storing data and algorithms) can be arranged within a single

7   chip (Stokes, col. 1, lines 36-50). Furthermore, Stokes discloses an arrangement of

8   encrypting data, wherein it is desirable for purposes of security to contain and arrange

9   together the data encrypting elements. The contained arrangement is for the security of

10   the CPU and memory (ROM & RAM) with data (Stokes, col. 8, lines 10-13; col. 2, lines

11   16-19; col. 3, lines 5-10). Thus, while Stokes does not disclose the circuit of the CPU,

12   RAM, ROM as being attached to a single piece of silicon, Stokes does disclose that it is

13   known in the art that the attaching of memory and processing elements to a single piece

14   of silicon is feasible. It would have been obvious to one of ordinary skill in the art to

15   employ the method of attaching encryption elements (processor and memory) to a

16   single chip. This would have been obvious because one of ordinary skill in the art

17   would have recognized from the teachings of Stokes that such a method is employed by

18   those of ordinary skill in the art, and that such a method could be used to arrange

19   encryption elements within a contained manner for a level of security.

20

1   **Conclusion**

2

3   Applicant's amendment necessitated the new ground(s) of rejection presented in

4   this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

5   § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

6   CFR 1.136(a).

7   A shortened statutory period for reply to this final action is set to expire THREE

8   MONTHS from the mailing date of this action. In the event a first reply is filed within

9   TWO MONTHS of the mailing date of this final action and the advisory action is not

10   mailed until after the end of the THREE-MONTH shortened statutory period, then the

11   shortened statutory period will expire on the date the advisory action is mailed, and any

12   extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

13   the advisory action. In no event, however, will the statutory period for reply expire later

14   than SIX MONTHS from the date of this final action.

15   Any inquiry concerning this communication or earlier communications from the

16   examiner should be directed to Jeffery Williams whose telephone number is (571) 272-

17   7965. The examiner can normally be reached on 8:30-5:00.

18   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

19   supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone

20   number for the organization where this application or proceeding is assigned is 703-

21   872-9306.

1   Information regarding the status of an application may be obtained from the

2   Patent Application Information Retrieval (PAIR) system. Status information for

3   published applications may be obtained from either Private PAIR or Public PAIR.

4   Status information for unpublished applications is available through Private PAIR only.

5   For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

6   you have questions on access to the Private PAIR system, contact the Electronic

7   Business Center (EBC) at 866-217-9197 (toll-free).

8

9

10   Jeffery Williams
11   Assistant Examiner
12   Art Unit 2137
13   5.23.2005
14

EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER